



Department Of Veterans Affairs
VA Northern California Health Care System
(VANCHCS) Research Service
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Research Laboratory Manual
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General Overview

1. Purpose of this Manual:

- VHA Handbook 1200.08 requires VA research programs that involve hazards to workers and/or the environment to maintain a Research Safety and Security Program (RSSP) that is compliant with VA policies, and Federal, state, and local statutes and regulations. Policies include those established by the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC), the *NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules (NIH Guidelines)*, and the CDC-NIH publication titled, *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*.
- In accordance with requirements, a service-wide research laboratory manual must be developed, updated, reviewed, and approved *annually* by the Subcommittee on Research Safety (SRS), and forwarded to the Research and Development Committee (R&DC) for concurrence.

2. Research Staff Responsibilities:

- This manual outlines the policies and procedures that govern this facility and serves as a resource and reference to minimize risk(s) to VA Research Service employees during the performance of research duties.
- A copy of this manual must be kept in each laboratory, and each worker is responsible for reading, understanding, and adhering to the practices and procedures that are outlined. In addition, research staff must complete other mandatory training requirements that are required to access research areas and/or perform research activities.
- Failure to comply may result in suspension and/or termination of research privileges.

3. Contact Information:

Emergency Contacts

- Emergencies: Extension 3333
- VA Police (non-emergency): 916-843-5401
- Employee Health Services: Extension 19397/19395
- Engineering Trouble Desk: Extension 5555
- Engineering and Facilities Management Services: Extension 15491

Research Service

- Dawn Schwenke, Associate Chief of Staff for Research Service (ACOS/R): 916-843-2776 or dawn.schwenke@va.gov
- Administrative Officer for Research Service (AO/R): 916-843 2893 or miguel.sanchez@va.gov
- HRPP Manager: 916-843-2769 or jefferson.lee2@va.gov
- Research Compliance Officer: 916-843-7326 or ellece.papas@va.gov
- IRB Administrator: 916-366-5333 or laura.jones01@va.gov
- SRS Coordinator: 916-843-7327 or alicia.enriquez@va.gov

- R&DC Coordinator: 916-843-9173 or bruce.cunningham@va.gov
- Budget Analyst: 916-843-7195 or jeanette.rainey@va.gov Safety,

Environmental Health, and Emergency Management

- Safety Manager: 925-372-2465 or elbert.mcclain@va.gov
- Mather Site Safety Officer: 916-843- 7125 or
- Industrial Hygienist/Chemical Hygiene Officer: 916-843-7150 or sean.wright@va.gov
- Environmental Specialist/GEMS Program Manager: 916-843-7098 or gus.ballis@va.gov
- Emergency Management Specialist, 916-843-9127 or dean.case@va.gov

Engineering and Facilities Management (Mather):

- Boiler Plant: Extension 5555
- Supervisor of Maintenance and Operations (M&O): 916-843-2887 or douglas.moyer@va.gov

Engineering and Facilities Management (Martinez):

- Supervisor of Maintenance and Repair (M&R): 925-372-2547 or timothy.denham@va.gov

Other Related Services:

- Occupational Health: 916-843-9397 or al.cooney@va.gov
- Radiation Safety Officer: 916-843-7244 or charles.barnett@va.gov
- Attending Veterinarian: 530-752-0780 vlukas@ucdavis.edu or lbrignolo@ucdavis.edu.
- IACUC Administrator: 530-752-3174 or dmroutley@ucdavis.edu.
- Housekeeping (Mather): 916-843-7003
- Housekeeping (Martinez): 925-370-4770

PURPOSE OF RESEARCH SAFETY

VHA Handbook 1200.08 mandates that VA Research services must maintain a Research Safety Program that is consistent with VA policies, Federal, State and local statutes, regulations from Occupational Safety and Health Administration, the Environmental Protection Agency, and the Nuclear Regulatory Commission.

In compliance with this mandate, a service-wide safety manual must be developed, updated, reviewed and approved *annually* by the Subcommittee on Research Safety (SRS) and forwarded to the Research & Development Committee for approval.

This Biological Laboratory Manual serves as a resource and reference to assist in the minimization of risk associated with the VA Research Service employees' daily responsibilities.

References:

- VHA Handbook 1200.06, "Control of Hazardous Agents in VA Research Laboratories,"
- VHA Handbook 1200.08 "Safety of Personnel Engaged in Research,"
- www.volunteer.va.gov/studentprogram.asp
- [http://safetyservices.ucdavis.edu/labsafety\(local/state\)](http://safetyservices.ucdavis.edu/labsafety(local/state))

This document has been designed to provide you with the basic elements of laboratory safety and the policies and procedures that govern this facility. All personnel must be familiar with the **Biosafety Manual**. A copy of the **Biosafety Manual** is required to be kept in each laboratory. The most effective safety precaution is the use of common sense. Ask questions if you are unsure of something. Your well-being and that of your fellow laboratory workers is of the utmost importance to Research and Medical Center management. It is your responsibility to read, understand and adhere to the practices and procedures in this manual. Failure to comply with the following practices and procedures may result in suspension and/or termination of research activity.

Research Safety/Chemical Hygiene Plan

All personnel (including WOC, students, volunteers, etc.) must complete the annual Mandatory Review. In addition, Research Service may sponsor other safety training and retraining sessions throughout the year. All employees must attend these sessions when offered. It is important **to know** about hazardous and toxic substances present in your work site, and you must be trained in their safe use. **Two lines of training** are required: (1) **Overall laboratory training:** All personnel working in VA laboratories (both VA employees and workers without compensation (WOC), Mather Medical Center and in Martinez OPC) will be required to take the online bio-safety and fire- safety trainings on the CITI Website. (<http://www.citiprogram.org>). UC Davis laboratory safety training can be accepted in lieu of the CITI bio-safety training. (2) **Lab specific training:** All supervisors are required to train their staff on all aspects of their specific laboratory duties and protocols.

1. Research Service (RS) Responsibilities:

- The RS has responsibility for oversight of research worker and environmental safety, and must develop a Research Safety Plan that addresses all types of hazards used in research.
- A research safety drill must be conducted at least annually, and provided to the RS to guide its annual review of the Research Safety Plan. The plan must be revised to address any concerns that are identified and/or new requirements, as needed.
- The RS is also informed of accidents and occupational injuries involving research workers, and must develop corrective actions to address any program deficiencies that may have contributed to the incident.

2. General Laboratory Safety:

- Always use “common sense” when working in research laboratories.
- Ask questions if you are unsure how to work safely.
- Eating and drinking are not permitted in research areas. Food and drinks cannot be stored in research laboratories, including annexes that have no common wall between the laboratory and administrative areas where study desks are located. Designated areas are provided at each facility to store and prepare food and drinks (Mather: Room 5A042, Building 700; Martinez: VA Canteen).
- Do not smoke, handle contact lenses, apply cosmetics, or wear open-toed shoes in research laboratories.
- Mouth pipetting is prohibited.
- The use of mercury and/or mercury thermometers is not permitted in VA research laboratories.
- All containers (bottles, tubes, flasks, etc.) must be clearly labeled. The label must state the contents and include the initials of the person responsible for its use.
- Compressed gas cylinders must be individually secured with two chains. Cylinders that are not in use must be capped.
- Do not leave heating elements (i.e., hot plates, Bunsen burners, etc.) unattended while in use.
- Electrophoresis equipment that is left running overnight must be checked prior to leaving

for the day.

- “Common use” or shared equipment: Maintenance and use of this equipment is recorded in logbooks, and use is limited to individuals who are properly trained and competent in its operation. Shared equipment must be properly shut down and cleaned/decontaminated after every use.
- Equipment with frayed or damaged electrical cords must be taken out of service. The Research Administrative Officer must be notified for repair.
- Old, broken or unused equipment that is no longer needed must be transferred to the Logistics Management Service with a completed VA Form 2237 authorizing disposal. The Administrative Officer for Research must be notified for all equipment turn-ins.

3. Research Chemical Hygiene Plan:

- Comprehensive chemical inventories must be maintained for each research laboratory that include chemical names, approximate quantities stored, physical state of chemical (liquid, solid, etc.), and method of storage. These inventories must be readily available to all research staff.
- Safety Data Sheets (SDS) must be readily available for every hazardous chemical used in research, and on the VA CEOSH Website. SDSs contain information on the chemicals, including permissible exposure limits for hazardous substances and signs and symptoms associated with exposure to hazardous substances. All lab personnel must review and understand the SDS prior to using any chemical.
- All chemicals must be stored in compatible containers that are properly labeled with the contents, hazard codes, and date of receipt. If secondary chemical containers are made from primary chemical containers, they must be also properly labeled with contents, hazards codes, and date.
- Do not use chemical fume hoods for storage.
- Chemicals must be segregated during storage to avoid potential mixing of incompatible compounds.
- Flammables, caustics, and acids must be stored in designated storage cabinets when not in use.
- Peroxide-forming chemicals must be labeled with the date received, and stored in a dry, secure location. Chemicals should be monitored for discoloration and/or the formation of crystals, and discarded 6 months after opening.
- The Research Safety Officer must conduct a review of all hazardous chemicals in research areas at least semi-annually. The chemical inventory document will be sent to Safety Services and updated semi-annually, or as requested by Safety Service. The Research Service should also receive a chemical inventory.
- Workers must use a chemical fume hood when working with volatile chemicals.
- Workers involved in the shipment of hazardous materials must complete mandatory training.
- Chemical spill kits suitable for small spills must be available in all research laboratories where hazardous chemicals are stored or used. The location of the kit must be marked on the nearest wall with a sign.
- If a spill occurs, notify other workers in the laboratory to avoid the area. The spill kit can be used to mitigate small, limited spills. Engineering and Safety Services staff must be contacted for assistance with larger spills.

- All accidents and/or spills involving hazardous chemicals must be reported to the Research Service.
- Segregate and collect hazardous waste in labeled containers, and store in designated areas. Hazardous waste includes expired chemicals, as well as used chemicals and batteries.
- Broken glass that is not contaminated must be gathered with tongs, or dustpan and broom, and disposed in designated sharps containers. Boxes that are 75% full should be closed, labeled for disposal, and left on the floor of the laboratory for pick up.
- Chemically contaminated glass must be collected in plastic bins, and labeled for disposal.

4. Chemical Safety:

- Obtain and read SDS before using any chemicals.
- Chemicals such as mercaptoethanol and other volatile reagents will be opened, aliquoted, etc. only in a fume hood.
- Protect yourself from chemical exposures. Be sure to use appropriate personal protective equipment (PPE: lab coats, gloves, face shields, masks, goggles, etc.) when working with hazardous chemicals.
- All flammable substances, bases and acids must be kept in their respective cabinets. Cabinets designed for safekeeping are specially marked. Please consult the Industrial Hygienist or GEMS Safety Officers for guidance. A suitable spill kit must be available in each laboratory that uses chemicals.
- In case of chemical spills notify others in the laboratory. If it is small amounts of alcohol or water spills clean it promptly to prevent other physical safety hazards. Otherwise, contact the Environmental Specialist, 916 843- 7098. If it is after hours (weekends/holidays), contact Emergency 3333.
- Mercury spills are cleaned by Engineering and Safety Services. Contact 5555 following a mercury spill.
- Chemical storage areas must be periodically examined to determine whether the containers and the chemicals in them are still safe i.e. within a specified expiration date and with no visible corrosion.
- Become familiar with the proper waste procedures for the chemicals you use. Questions about chemical waste disposal can be directed to the Environmental Specialist, 916 843-7098.
- If you have any chemicals for disposal (old, no longer used, or past expiration date) please notify the Safety Manager and use the appropriate form.
- Used batteries are considered Universal Waste and must be properly disposed of in containers dated and marked "Universal Waste." The containers are located in the VA Research Admin Office. If the container is full, contact Housekeeping for removal and replacement.
- Hazardous chemicals must NOT to be stored in chemical fume hood work areas.
- After completion of daily work procedures, all hazardous chemicals MUST be returned to their proper storage locations.
- If you are unclear about the safety procedures and/or proper disposal procedures for handling chemical substances speak to your supervisor.
- Date chemicals upon receipt and read labels carefully before using.

5. Radiation Safety in Research:

- The use of radioisotopes, radiation-emitting devices, and the initiation of iodination studies must be approved by the VANCHCS Radiation Safety Officer.
- Prior to working with radioisotopes and/or radiation-emitting devices, workers must complete training and be approved by the Radiation Safety Officer.
- A copy of the Facility Radiation Safety Guide must be kept in any laboratory where radioisotopes are used.
- Personnel working with radiation and/or radioactive material must wear appropriate PPE and, as required, a dosimetry badge to monitor exposure.
- The Radiation Safety Officer must approve all purchases of radioactive material for research.
- Entrances to laboratories where radioactive materials are used must have yellow warning signs with emergency contact information. Designated work areas in the laboratory, equipment, and containers used for radioactive materials must be labeled with yellow radioactive tape. A double layer of disposable absorbent material must be used to cover bench areas when working with radioisotopes.
- For areas where beta and gamma emitters are used, wipe tests must be performed at prescribed intervals. If test results exceed 200 disintegrations per minute (dpm), the area must be decontaminated and retested.
- For areas where high energy beta (e.g., ^{32}P) and gamma (e.g., ^{125}I , ^{51}Cr , and ^{36}S) emitters are used, a radiation survey meter should be used to monitor for contamination. Calibration of survey meters must be scheduled annually through the Radiation Safety Officer.
- Radioactive materials must be stored in a secure location that is labeled "Caution Radioactive Material." Radioactive materials are stored in Building 700, Room 5A031 at Mather, and in Building R1, Room R114B at Martinez.
- A radioisotope logbook must be maintained for each laboratory, including an inventory of isotopes received (lot number, quantity, and date), amounts used, survey results, and waste produced.
- Radioactive waste containers must be labeled "Radioactive Waste – Do Not Remove," and kept in an area separate from regular trash receptacles. Dry and liquid waste must be kept separate, and different isotopes must not be mixed. Scintillation vials should be kept in their cardboard trays.
- Waste containing nonhazardous chemicals and radioactive waste with half-lives less than 120 days (e.g., ^{32}P) can be stored in the laboratory until the waste has decayed to background levels. After verification by the Radiation Safety Officer, liquid waste can be disposed down the drain, and solid waste can be disposed as regular trash.
- Waste containing hazardous chemicals (e.g., scintillation cocktails), or radioisotopes with half-lives greater than 120 days (e.g., ^{14}C , ^3H) must be bagged, labeled, and transferred to the Radiation Safety Officer for storage in the VANCHCS radioactive waste storage building.
- The Radiation Safety Officer will inspect laboratories where radioactive materials are used at regular intervals.
- Minor spills must be contained with paper towels, and cleaned with detergent until counts register at background levels. All contaminated materials must be placed in the

radioactive waste container. The Radiation Safety Officer must be contacted for assistance with larger spills (i.e., greater than 1 mCi).

- Skin contamination must be removed by washing with mild soap in tepid water, and flushing with large volumes of water. Care must be taken not to abrade the skin. Survey the hands, laboratory coat, and shoes to ensure no contamination remains, and remove and properly discard or store PPE prior to exiting the laboratory.

6. Biological Safety in Research:

- Select agents and toxins are not used in VANCHCS research.
- Biosafety level-2 (BSL-2) is the highest level of containment for research involving biological hazards at VANCHCS. BSL-2 practices are used for all research procedures involving specimens of human origin (e.g., blood, urine, tissues, etc.).
- All VANCHCS research involving live animals is conducted in approved off-site facilities and must adhere to safety policies and procedures established by the host institution. No live animals are housed or used in VANCHCS research laboratories.
- Entrances to laboratories where biological hazards are used must have appropriate signage that includes the agent(s) being used, entry/exit requirements, and emergency contact information.
- A list of biological agents and/or toxins used in research must be maintained for each laboratory.
- Disposable gloves must be worn at all times when working with potentially infectious materials. Remove torn gloves and wash contaminated skin immediately. Dispose of contaminated material or PPE into an infectious waste container.
- Safety glasses, goggles, and/or face shields must be worn when working with liquid materials that may be infectious on an open bench. Compliant eyewashes must be available to irrigate eyes following accidental splashes.
- The development of safety practices and procedures is based on the type of agent and the specific laboratory procedures that are performed.
- Procedures that are likely to generate aerosols must be conducted in a biological safety cabinet, and with equipment that has adequate safety features, to properly contain any aerosols that are generated (i.e., centrifuges equipped with safety rotors and cups, etc.).
- Clean contaminated surfaces inside biological safety cabinets and/or on other equipment with a freshly-prepared solution of 10% bleach, Amphyl®, or Wescodyne®, followed by 70% ethanol in water to remove corrosive residue. Ultra-violet light alone may not be sufficient, and should not be activated when the laboratory is occupied.
- Biological safety cabinets must be certified annually.
- Work conducted inside biological safety cabinets must not interfere with the air curtain at the front of the cabinet or the back plenum. Do not use Bunsen burners or open flames inside biological safety cabinets.
- Used sharps and uncapped needles should not be left lying on an open workbench. These sharps need to be disposed of in a dedicated sharps container.
- Disposable supplies (i.e., culture plates, inoculating loops, pipette tips, etc.) should be

used whenever possible, and sharps (i.e., needles, blades, glass slides, etc.) should be avoided.

- Inoculating loops should be sterilized in closed incinerator devices, and in a manner that minimizes splattering of materials on heating.
- Vacuum lines must be protected with an in-line high efficiency particulate air (HEPA) filter that is checked regularly for contamination.
- Potentially infectious materials (i.e., culture plates, specimen tubes, etc.) must be covered with tightly closed lids, and placed in baskets, trays, or racks for transport inside the laboratory. A cart should be used when transporting several items.
- For transport between laboratories, potentially infectious materials must be bagged and placed inside a rigid leak-proof, decontaminated secondary container that is labeled as a "biohazard." A cart should be used when transporting several items. A spill kit is required when transporting.
- When transporting infectious materials outside of research areas, transport should be performed by two individuals, and scheduled during non-business hours using service routes. Materials for handling accidental spills should be readily available. The materials should be enclosed in sealed containers, decontaminated, bagged, and placed inside a rigid leak-proof, decontaminated secondary container that is labeled as a "biohazard." A cart should be used when transporting several items. A spill kit is required when transporting.
- Workers involved in the shipment of hazardous materials must complete mandatory training including spill training.
- At the end of the work day, clean and decontaminate all work surfaces and equipment with freshly prepared 10% bleach solution or other approved disinfectant. Some materials and/or equipment may need to be autoclaved prior to reuse or disposal.
- Biohazardous waste must be collected in red biohazard bags for disposal.
- Liquid biohazardous waste and/or sharps (i.e., needles, pipettes, blades, glass tubes, broken glass, etc.) must be collected in leak and puncture proof sharps containers. Do not bend, clip, or recap used needles. When the container is 75% full, it must be placed inside a red biohazard bag, and put into a labeled cardboard box for disposal. Some waste may need to be autoclaved prior to disposal.
- If a spill or leak occurs, notify other workers in the laboratory to avoid the area. The spill kit can be used to mitigate small, limited spills. The Principal Investigator, Laboratory Director, or Research Safety Officer must be contacted for assistance with larger spills.
- All accidents and/or spills involving biological hazards must be reported to the Research Service.
- Enhanced BSL-2 (BSL-2 Plus) procedures are used for research involving human pathogens that can produce fatal infections. Requirements include restricted access, self-closing laboratory doors, autoclave access, waste decontamination prior to disposal, use of double gloves, and mandatory participation in the Employee Health Program.
- Skin contamination must be removed by washing with mild soap in tepid water, and flushing with large volumes of water. Care must be taken not to abrade the skin. Survey the hands,

laboratory coat, and shoes to ensure no contamination remains, and remove PPE prior to exiting the laboratory.

- Emergency eyewashes or showers are used a minimum of 15 minutes, which is the recommended flushing time for contact with hazardous materials.

7. Controlled Substances in Research:

- Materials containing any quantity of a substance with a stimulant, depressant, or hallucinogenic effect on the higher functions of the central nervous system, and having the tendency to promote abuse or physiological or psychological dependence, as designated in federal controlled substance schedules and policies.
- Principal Investigators (PIs) using controlled substances in their laboratory research (including research animals) are subject to federal regulatory requirements. Please note that these requirements (including licensing/registration with regulatory agencies) are separate from and in addition to any that apply to medical practitioners (i.e., MDs and MD/PhDs conducting laboratory research must also obtain licensure/registration for laboratory use of controlled substances).
- Controlled substances are divided into five categories, known as Schedules. Researchers planning work with controlled substances must be aware of and comply with federal statutes and regulations for these materials.
 1. Schedule I drugs are the most highly regulated. They have a high potential for abuse, have no accepted medical use in the US and/or have a lack of accepted safety for human use. These include many widely known street drugs, including heroin and hallucinogenic drugs such as LSD and marijuana.
 2. Schedule II drugs also have a high potential for abuse but have an accepted medical use in the US and have an accepted safety profile. Examples of Schedule II drugs include morphine, methadone, cocaine and oxycodone.
 3. Schedule III compounds include many stimulants and depressants, pain-killers and cough suppressants, the veterinary anesthetic ketamine, and anabolic steroids.
 4. Schedule IV substances cover the balance of lower abuse-potential stimulants and depressants.
 5. Schedule V includes therapeutic drug mixtures containing very limited quantities of controlled substances.
- The Research Pharmacist serves as a consultant to the ACOS/R for establishing policies and procedures for controlled substance usage that conforms to federal regulations and policy to ensure the licensure, purchasing, storage, security, use, recordkeeping and disposal of controlled substances meet federal and VHA requirements. The Research Pharmacist will facilitate the order, receive, distribute and arrange for destruction of all Schedule I– V controlled substances used in Research. The Research Pharmacist will maintain records indefinitely per VA Research Records Storage Policy. The ACOS/R or his/her representative will be immediately notified if discrepancies are found in the controlled substance inventory of the pharmacy stock.

1. The investigator or authorized designee will email a request for ordering to the Research Pharmacy.
 2. The Research Pharmacy will order the drug by the close of business on the next business day after receipt of order request.
 3. Controlled substances in Schedules I through V will be delivered to the Research Pharmacy.
 4. The Research Pharmacy will notify the investigator when the controlled substances arrive and arrange for the investigator or authorized user to pick up the item.
 5. The Research Pharmacy will send a copy of the invoice for each item dispensed to the Budget Analyst in R&D Service who will arrange for payment.
- Controlled substances may only be used for duly authorized, legitimate medical or scientific research purposes, and in conformity with federal statutes and regulations.
 - Controlled substances possessed, kept, or otherwise stored in a manner or location not in compliance with state or federal law is subject to seizure and forfeiture. Failure to comply with applicable requirements may also result in a suspension of purchasing privileges and a ban on the use of controlled substances in future experiments.
 - In order to guard against theft or diversion, all controlled substances - regardless of schedule - must be kept under double lock, and accessible only to authorized personnel. The number of authorized staff must be kept to the minimum essential for efficient operation, and the stocks of controlled substances to the smallest quantity needed.
 - All controlled substances must be stored in a refrigerator or locked cabinet that has been approved by the Research Pharmacist. Regardless of schedule, all controlled substances must be kept locked in their storage location except for the actual time required for authorized staff to remove, legitimately work with, and replace them.
 - All expired material, unused product, empty vials for all Schedules I through V must be returned to the Research Pharmacy
 - Thefts, suspected thefts, unauthorized uses, or other losses of any controlled substance must be reported to the ACOS/R immediately upon discovery.
 - Investigators wishing to accept controlled substances from collaborators must coordinate the transfer with the Research Pharmacist.

8. Individual Responsibilities:

Principal Investigators and Laboratory Directors are required to:

- Develop laboratory-specific standard operating procedures (SOPs) for laboratories they manage or supervise.
- Ensure safety equipment is properly maintained and tested at required intervals. Eyewashes must be tested weekly. Safety showers must be tested monthly. Chemical

fume hoods and biological safety cabinets must be certified annually. Radiation survey equipment must be calibrated annually.

- Ensure workers they supervise are properly trained and supervised while working in research areas. This includes individual training of workers on laboratory-specific hazards, emergency procedures, and conditions or signs that indicate the need for medical evaluation.
- Maintain documentation of training for review by the SRS and/or Research Service, upon request.
- Ensure workers follow Personal Protective Equipment (PPE) requirements for research areas.
- Work with the VANCHCS Safety and Health Staff to record research accidents and injuries in the Automated Safety Incident Surveillance Tracking System (ASISTS), and ensure the Research Service is notified promptly of these incidents.
- Maintain accurate inventories of all hazardous chemicals (including storage locations and approximate quantities), biological agents and toxins, and laboratory equipment used in their respective laboratories, using forms in Appendix A.
- Maintain instruction manuals and/or written SOPs for the use of the equipment in laboratories they manage, and verify staff is properly trained and competent to use the equipment.

Workers are required to:

- Know the location of emergency numbers, exits, and equipment. This includes first aid kits, eyewashes, spill kits, safety showers, fire extinguishers and alarms, etc.
- Wear PPE when working in laboratories, including dedicated laboratory coats and gloves. Special gloves and/or eye and face protection may be required for certain activities. All PPE must be removed prior to using telephones and/or computers, and prior to leaving research areas.
- Be properly trained on all laboratory equipment that is used.
- Wash hands after working, and before leaving the laboratory.
- Immediately report accidents and/or injuries to the Laboratory Supervisor or designee, and immediately report to the Employee Health Unit for assessment.

All workers are encouraged to participate in the Facility Employee Health Program, and self-report hazards that are encountered in research and any health conditions, accidents, or injuries that may affect personal risk.

CHEMICAL WASTE DISPOSAL

The key concern in chemical waste disposal is environmental responsibility. Before discarding any type of chemical wastes, check the appropriate Safety Data Sheet (SDS) or consult with the Environmental Specialist, 916 843 7098. You will be instructed on what to do or the substance will be disposed for you. If you use any particular chemical substances regularly, the Environmental Specialist, 916 843 7098 can arrange scheduled pick-ups of hazardous wastes.

Each laboratory is responsible for supplying their own glass disposal boxes (VA only provides red bags and bins for biohazard trash).

Glass Waste Disposal

1. All broken glass must be disposed of in a red, labeled, rigid “sharps” container. When the box is 75% full, close it securely by snapping the lid down, label with biohazard stickers on every side and place it on the laboratory floor for pick-up (Do not leave the box in hallway). This also applies to empty glass containers that are not broken but need to be thrown out.

Biological Hazard Disposal

1. Biohazardous or potentially biohazardous waste (including but not limited to: tissue culture flasks, needles, dishes, plates, plastic tubes and gloves) must be placed in biohazard bags (with red color).
2. Sharps (needles, glass and plastic pipettes, razor blades, syringes (without needles), etc.), whether contaminated or not, are to be disposed of in “sharps” containers as mentioned above. When the container is 75% full, dispose of by contacting Housekeeping.
3. Furthermore, any biohazardous waste that contains glass must be disposed of in a rigid Sharps container, taking care not to overfill the container (i.e. <75% full). This includes blood vials, glass vials, glass pipettes, Pasteur pipettes, etc.

Research Emergency Preparedness and Incident Response Plan

This plan is in accordance with VHA Handbook 1200.06 7.h.(3), and includes the following:

- Up-to-date plan is in place and reviewed annually
- Coordinated with facility's comprehensive emergency management program.
- The Emergency Operations Plan includes hazards and threats of fire, explosions chemical and biological exposures, bomb threats, natural disasters, etc.
- Addresses procedures for appropriate notifications and other areas
- Periodically conducting drills or exercises to test and evaluate the effectiveness of the plan
- Please find an area to require compliance of completing PS-001/EBD-SAF-14, E-1 Emergency Service Plan. Keeping one in the Admin office and one with the VANCHCS Emergency Management Office.

The Office of the Associate Chief of Staff (ACOS) is designated to initiate and implement the emergency Preparedness and Incident Response plan. The ACOS and the AO will take the lead in case an emergency.

A. Notification System

- Through the Office of the Associate Chief of Staff, all Research personnel located at the VA Hospital will be notified in case of an emergency. Emergency procedure instructions will be in each laboratory area to supplement the other notification procedures. The Office of the Associate Chief of Staff will establish and maintain a current address and telephone number file on all Research service employees.
- All employees, upon being notified of an emergency, will report to their regularly assigned posts of duty and secure all laboratories and offices, taking care to shut off all non-essential electrical equipment and gas sources.
- The Administrative Staff and Safety Office will assist in the primary assessment of damages and casualties, and will make a written report to the Office of the Associate Chief of Staff.
- If the disaster is located in the Research area:

a. Non-Radioactive Disaster

- 1) The employee must report the disaster by activating the nearest operating fire alarm.

- 2) The reporting employee must request the assistance of a fellow employee to stay by the alarm system and direct emergency crew to the location of the disaster.
- 3) The reporting employee must return to the disaster area and:
 - a. if possible, carefully remove any injured employee in immediate danger;
 - b. Fight the fire, if possible; only use a fire extinguisher for small fires. Do not endanger yourself or others.
 - c. Evacuate others in the adjacent area. Evacuate to a designated assembly area out of the danger area. Safety warden shall account for all staff members at the assembly area

b. Radioactive Disaster

- a. The research service employee involved must contact the Radiation Safety Officer.
- b. Confine the contamination to protect other personnel in the area.

1. Research Service (RS) Responsibilities:

- The RS has responsibility for oversight of research emergency preparedness and incident response, and must develop a Research Emergency Preparedness and Incident Response Plan that complements the Facility Emergency Preparedness Plan and addresses potential emergency situations in research.
- A research emergency response drill must be conducted at least annually, and provided to the RS to guide its annual review of the Research Emergency Preparedness and Incident Response Plan. The plan must be revised to address any concerns that are identified and/or new requirements, as needed.
- The RS is also informed of emergencies and other unexpected incidents involving research hazards and/or research workers, and must develop corrective actions to address any program deficiencies that may have contributed to the incident.

2. Significant Hazardous Material Spills or Leaks:

- Inventories of hazardous materials used in research laboratories will be maintained, and made available to Police, Fire, and other First Responders during emergency situations.
- Alert other workers in the laboratory when a spill or leak has occurred.
- Spill kits can be used to contain minor spills of hazardous materials in laboratories. For larger spills, evacuate the area and close the laboratory door after exiting.
- Depending on the type of spill, contact the Principal Investigator/Laboratory Director and appropriate emergency responder(s) immediately to assist in mitigation. Contact Environmental Services for chemical spills. Contact the Radiation Safety Officer for

radioactive spills. Contact the Research Safety Officer for biological spills.

- Any individual who may have been exposed during the incident should promptly report to the Employee Health Unit for evaluation.
- Notify the SRS and Research Service of the incident within 5 days.

3. Fire Safety:

- All research laboratories are equipped with life safety equipment, including fire alarms, fire extinguishers, etc.
- Equipment and supplies cannot be stored within 18-inches of laboratory ceilings, to ensure that the sprinkler system is not obstructed.
- Flammable liquids must be stored in designated storage cabinets when not in use.
- Do not leave heating elements (i.e., hot plates, Bunsen burners, etc.) unattended while in use.
- Inventories will be maintained of hazardous materials used in research laboratories, and made available to Police, Fire, and other First Responders during emergency situations.
- All staff must evacuate the area when a fire alarm sounds. Follow evacuation routes and use stairs, as directed. Help others who may need assistance in evacuating the area.
- Assemble in the designated meeting area after leaving the building.
- Follow RACE procedures if a fire is discovered:
Rescue persons in the immediate area, and notify all workers of the need to evacuate.
Activate the alarm located in the stairwells, or call **3333** to report the fire.
Confine the fire by closing doors in the immediate area.
Evacuate the area.

4. Utility Interruptions:

- Research staff will be notified in advance of scheduled utility interruptions, and should plan their work accordingly.
- All research laboratories should be equipped with emergency power receptacles and emergency light sources (i.e., flashlights, glow-sticks, etc.).
- In the event of an unscheduled power failure that interferes with lights and/or ventilated equipment, workers should stop working immediately. Close the sash of the chemical fume hood or biological safety cabinet to minimize the escape of fumes and/or aerosols.
- Other work in progress may be temporarily paused, but should be completely stopped if the power failure persists for an extended period of time. Workers should safely dispose of waste, and clean or decontaminate equipment to the best of their abilities.
- Secure the laboratory door after exiting.
- Notify the Research Service if the interruption persists for an extended amount of time.

5. Natural Disasters:

- Research staff should shelter-in-place during most natural disasters, such as severe storms, earthquakes, and/or high winds.
- Assemble in a protected area, away from windows and/or heavy objects that can become unstable.

- Help others who may need assistance in reaching shelter.
- Await further instructions from the Facility Emergency Response team.

6. Suspicious Packages:

- If a suspicious, unattended package is found, alert other workers and evacuate the area immediately. Do not disturb or attempt to move the package.
- Close the laboratory door upon exiting, and move to an area that is a safe distance away from the package.
- Call 3333 to report the package to authorities. Give your location and contact information in case additional information is needed.

7. HVAC Failure

In case of ventilation failure, personnel must stop any work being performed in a chemical fume hood or a biological cabinet. If personnel were exposed to any hazard due to the failure must report the incident to Occupational Health immediately.

Reference: PS-001/EBD-SAF-08 Fire Response Plan.

Research Security Plan

This Security Plan is in place and implemented as required by VHA Handbook 1200.06 7.b., 7.e.(4), & App. A.2.c. Annual review of the laboratories to ensure compliance with this plan is necessary and must be conducted by laboratory safety officers named in this document. It ensures that research laboratory areas have state of art security system; access control is on a 24-hour, 7-days per week schedule and an intrusion alarm system connected to, and monitored by, the facility VA Police Service, and meets VHA requirements. Further, the plan ensures that security for exempt quantities of toxins and for hazardous agents/chemicals prevents unapproved use or theft. Toxins and hazardous agents/chemicals are controlled when not in use or not in direct view of an approved individual.

1. Facility Environment of Care (EOC) Committee Responsibilities:

- The Environment of Care (EOC) Committee reviews facility security reports, identifies concerns, and authorizes financial and administrative support for the facility Security Management Program. The EOC includes Research Service representatives, and EOC minutes are available to the SRS, R&DC, and ACOS/R.

2. Research Service (RS) Responsibilities:

- The RS has responsibility for oversight of the physical security of research laboratories. Research areas have been designated as “sensitive” by the VA Police Service, and the RS is responsible for development of a Research Security Plan that complements the EOC Security Management Plan.
- The RS must ensure that research laboratories are reviewed at least annually by a multi-disciplinary team that includes representatives of the Research Service, Police Service, and Facility Safety staff, to ensure compliance with facility security requirements. This review can be combined with EOC rounds and/or the “Annual Physical Security Assessment” conducted by the Police Service.
- In addition, a research security drill must be conducted at least annually.
- The results of the multi-disciplinary review and security drill must be provided to the RS to guide its annual review of the Research Security Plan. The plan must be revised to address any concerns that are identified and/or new requirements, as needed.

3. Control of Access to Research Areas:

- Perimeter doors to non-laboratory areas must be self-closing, and have security glass windows to permit an unobstructed view of outside areas. Perimeter doors cannot be propped open, and must be equipped with intrusion alarms to deter unauthorized entries.
- Access to research areas is controlled by individual electronic keycards, or an equivalent technology. Electronic keycards are used to record entry into research areas on a continuous (24/7) basis. When electronic keycards are not available, tracking of visiting personnel to the research areas is conducted by having visitors sign-in and -out of the visitor logs located at each entry way. Individuals not formally assign metal keys to work in the secured research areas must sign in and out of the visitor logs.
- Records are available through the Police Service, and must be reviewed weekly by the ACOS/R (or designee).
- Individual laboratories are secured with traditional metal keys, issued by the Research Service.
- The Research Service must maintain a record of all keycard and metal key assignments. Records must be reviewed semi-annually, and any missing keys reported immediately to the VA Police.

4. Granting of Access Privileges:

- All workers in VA research laboratories must register with the Research Office and complete all VA training requirements prior to beginning duties. This includes workers in short-term positions, students, and/or volunteers. A valid email address must be provided to receive announcements from the VA Research Service.
- Permission to work in research areas is limited to VA employees who are classified as:
VA Compensated: Individuals compensated by the VA on a full-time, part-time, or intermittent basis, and who are named on a VA research protocol approved by the R&DC.
Without Compensation (WOC): Individuals who are not compensated by the VA, but who are authorized to work in VA laboratories (frequently students and/or employees of an affiliate institution)¹.
- Human Resource Management Services (HRMS) is responsible for reviewing, verifying, and monitoring citizenship and visa status for all research workers.
- The Research Office must verify the status of WOC employees and workers with visa permits each year, and the status of individuals authorized to access research areas at least semi-annually.

5. Individual Responsibilities:

- Principal Investigators and Laboratory Directors must ensure the workers they supervise are properly trained and supervised while working in research areas. Documentation of training must be maintained, and provided to the Research Service upon request.
- Each individual authorized for unescorted access is responsible for keycards and keys assigned for use. Keys must be returned to the Research Service when access is no longer needed.
- Lost or stolen keys must be reported to the worker's supervisor, the Research Service, and the Police Service immediately. A replacement key may be issued, pending completion of the Police Service investigation.
- Each worker must scan their keycard and enter individually. Keycards cannot be shared, or used to admit groups of workers. No "piggybacking" is permitted.
- A valid VA approved photo identity badge must be worn and visible at all times in research areas. This includes engineering and housekeeping staff. Question individuals without badges, and report unauthorized entries to the Police Service immediately.
- Research workers should refuse delivery of any packages that are damaged, stained,

¹ Requests for WOC appointments should be directed to Research Service.

leaking, and unlabeled or otherwise suspicious.

- Doors to common areas and individual laboratories must be locked and secured at the end of the work day.
- Access privileges will be rescinded for individuals who do not comply with these requirements.

Volunteers, Guests, Visitors, and Minors in Research:

- Volunteers include individuals who are not compensated by the VA for their services, and have been appropriately cleared through Volunteer Services². Volunteers cannot participate in research duties and must be supervised at all times, as documented in writing on Form 10. Volunteers receive badges, but cannot be issued keycards or metal keys, and are not permitted access to VA computers or data.
- Guests are other individuals with VA-issued badges, who work in other areas of the facility and have not been authorized to access research areas.
- Visitors include contractors, vendors, delivery personnel, and other individuals who do not have a valid VA badge. Contractors must be cleared through the VA Police Service, prior to entering research areas.
- Visitors and guests are only permitted in research areas during regular business hours (Monday through Friday, 7:30 am to 5:30 pm), unless special authorization for access during non-business hours is granted by the Research Service. Phones are mounted on the walls next to perimeter doors and should be used to contact research staff for admission. To gain entry, guests must be wearing a valid VA badge and sign the visitor logbook. Visitors must provide valid proof of identity, sign the visitor logbook, and be issued a temporary visitor's badge. A VA employee must escort and assume responsibility for the conduct of the guest or visitor, while in research areas.
- Minors volunteering in VA laboratories must be at least 16 years of age, and have written consent from their parent(s) or legal guardian(s), as documented on Form 11.

Pregnancies and Research Activities in the Laboratories

- Minimizing risks for pregnant women is important due to the sensitivity of the fetus to specific chemicals, biological agents and ionizing radiation. Safe laboratory procedures minimize exposure for all laboratory employees, and when followed faithfully, also protect the developing fetus. All lab workers should know the hazards of the materials with which they work and it is important to recognize that an individual's susceptibility to those hazards may change due to factors such as pregnancy.

² VANCHCS Voluntary Service Program Office can be contacted at (916) 366-5372 (Mather) or (925) 372-2705 (Martinez).

REPORTING ACCIDENTS AND WORK-RELATED ILLNESSES

Research Service has adopted the procedures outlined in VANCHCS Policy Statement 001/EBD-SAF-03.

This PS 001/EBD-SAF-03 mandates that all VANCHCS job-related incidents of accidents or work-related illness must be reported to your supervisor immediately and must be filed in the VISTA Automated Safety Incident Surveillance Tracking System, also referred to as ASISTS, after referral of the individual to medical aid, if needed.

The VANCHCS Safety Officer will complete the Report of Accident, validate data and apply electronic signature in the ASISTS program.

Research Service Lab Manager or Designee will work with the local VANCHCS Safety & Health Department to document and manage accidents and injuries.

On a quarterly basis, Human Resource Management Service will track trends of employee accidents, injuries, illnesses and associated Workers Compensation costs and report this data to the Environment of Care Function Team.

Research Service representatives on the Environment of Care Function Team will provide the reports to the ACOS/Research, who will review and forward the reports to the next convened SRS and R&DC meeting for discussion.

Environment of Care Committee minutes regarding trend reports and discussion will also be forwarded to the SRS and R&DC.

The SRS and R&DC will review the report and minutes to ensure that causative factors and abatement actions are evaluated.

The ACOS/R will be charged with reporting back the Environment of Care Committee and concerns and or additional actions of the R&DC.

Annual vulnerability assessment of research laboratory(ies)

- These assessments must be periodically updated to identify high-risk areas, sensitive materials, and physical security issues
- Initial assessments will be conducted by the individual laboratories, and then re-analyzed by safety officer.
- Results of the assessment provided to the SRS, the R&D Committee and the Radiology Committee, if applicable.

The following have been adapted from the VA Office of Research Oversight (ORO) Checklist for Research Safety. Please maintain your laboratories in accordance with the checklist which should be reviewed periodically:

VANCHCS Environment of Care Committee's Annual Assessment

The annual evaluation reviews the following management programs that include drills as a part of their normal function: Safety Security, Hazardous Material Waste, Emergency Management, Fire Protection, Medical Equipment and Utility Management Program. Specifically we address the following:

- (a) Conducting annual drills to test the effectiveness of the plan. The management programs listed above includes drills and exercises, and the presence of Research Service personnel on the Environment of Care Committee (EOCC) will allow such drills and exercises to incorporate Research Service facilities and personnel as a part of their routine operation.
- (b) Coordinating with plans covering laboratories at off-site locations. In terms of coordinating the emergency preparedness and safety response plan with off-site laboratory locations, this will require approval by the EOCC of the research specific component within the facility wide preparedness plan. Once approved by the EOCC and R&DC this will be used as the basis for comparison with the preparedness plan operated by the affiliate.
- (c) Conducting annual multidisciplinary vulnerability assessments (which must include representative from the Research Service Safety and Security Program). The structure of the EOCC is outlined in 00-11 Appendix 16, ENVIRONMENT OF CARE and this includes individuals from a range of backgrounds including Research.

Research Service's emergency preparedness and incident response is coordinated with VANCHCS overall Emergency Operations Plan (EOP).

In compliance with 1200.06 7.h. (3), the plan is up-to-date and is reviewed annually by the Research Safety Officer.

This plan includes fires, explosions chemical biological spills, release of chemicals, bomb threats, natural disasters, and so on.

It addresses procedures for appropriate notification and other areas.

Integral parts of the VANCHCS EOP are the drills and exercises to test and evaluate the effectiveness of the plan annually.

The Emergency Management Functional Team (EMFT) is charged with conducting drills and exercises to evaluate the plan. The EMFT is a subcommittee of the Environment of Care Committee

The EMFT conducts and evaluates drills and reports finding to the EOCC. The AO/Research service is a member of this Task Force.

Research Service representatives on the EOCC will provide reports to the ACOS/Research, who will review and forward the reports to the next convened SRS and R&DC meeting for discussion and approval.

EOCC and EMFT minutes regarding exercise and drill reports will also be forwarded to the SRS and R&DC for awareness and discussion. The SRS and R&DC will review the report and minutes to ensure research compliance.

The ACOS/R will be charged with reporting back to the EOCC and EMFT any concerns and additional actions of the R&DC.

APPENDIX A

FORMS REQUIRED FOR LABORATORY INVENTORY

Site-Specific Responsibility

Principal Investigator: _____

Office: _____

Phone: _____

Email: _____

*Contact Person (if different from PI)

Name: _____

Phone: _____

Email: _____

Rooms covered by plan: _____

Implementation Date: _____

Annual Review Date: _____

Form 1: Chemical Inventory:

A chemical inventory must be completed and updated annually by each Principal Investigator or supervisor. The chemical inventory must contain the following elements: chemical name, average amount stored, maximum stored on hand, storage method, and physical state of chemical. Inventories shall be submitted to Research Service and the VANCHCS Industrial Hygienist. The investigator is also responsible for completing the semi-annual Safety Service Memo addressing changes to chemical inventories or updates to current inventories.

Form 2: Biological (hazardous agent) ** Inventory:

An accurate, current inventory of all hazardous agents, including select agents, toxins, and exempt quantities of toxins within the laboratory must be maintained at all times. These records must be secured from unauthorized access, but must be available during an emergency. **Only biological material classified as Biosafety Level 2 or Biosafety Level 3 need to be inventoried.

An accurate inventory of hazardous agents must include for each item:

1. . Name, characteristics, source data, purpose or use, and location of storage.
2. The quantity held on the date of the first inventory (for toxins only).
3. The quantity acquired, the source, the date of acquisition, and the total held.
4. The quantity, volume, or mass-destroyed, or otherwise disposed of; the mechanism of disposal; the date of each such action; and the name of the witness to the destruction.
5. The quantity used and date(s) of the use (for toxins only).

Form 3: Site-Specific Information on Chemical and Biological Receiving, Storing, or Dispensing**

(If Applicable)

Give the location of your laboratory's chemical and/or biological receiving, storage, or dispensing areas. Describe any ordering policies or procedures for hazardous chemicals and/or biological material**.

Form 4: SDS and Other Reference Materials Available in the Laboratory

Describe how and where SDSs and other reference materials are available in this laboratory.

Form 5: Emergency Response Instructions

LABORATORY-SPECIFIC PROCEDURES: The following are specific instructions for actions to take during an emergency situation in the laboratory.

Form 6: Site-Specific Hazardous Material Control Systems (Engineering Controls)

List hazardous material control systems (e.g. fume hoods) available in your laboratory. Include information on restrictions, special precautions or procedures, preventative maintenance schedules, and any other information relevant to safe operation in the laboratory.

Form 7: Personal Protective Equipment Available in the Laboratory

List the personal protective equipment available to laboratory workers and when it should be used.

Eye Protection:

Gloves:

Other Protective Clothing:

Respiratory Protection:

Other:

Form 8: Prior Approvals Required Chemical Hygiene and Biosafety Plans

List prior approvals required for particular laboratory functions. **The Principal Investigator or Laboratory Supervisor will determine which laboratory operations, if any, will require prior approval.**

Form 9: Laboratory Employee Training Checklist (EXAMPLE)

Training is required for all employees, including students and volunteers (WOC), working in Research laboratories. The PI or laboratory director is responsible for ensuring that adequate instruction is provided to all personnel who will have contact or will be involved with biological agents or hazardous chemicals. This includes training for specific tasks that employees will perform. All training must be documented and the signed documents must be kept in the lab. Training should be done annually.

Employee:

Job Title:

***** Each supervisor (PI) should decide what employee training is needed. *****

General Safety	Training Required (check here)***	Date of Training	Employee Signature	Trained by...
Radiation Hazards				
Biosafety (Infectious Agents)				
Carcinogen Handling Procedures				
Chemical Handling, Storage and Disposal				
Personal Protective Equipment(eye, ear, lung & skin protection)				
Compressed Gases, Handling and Storage				
Safety Equipment Use Procedures				
Equipment Use Procedures (List equipment)				
Laboratory Procedures (List procedures)				

Form 10: Supervision of Volunteers in Research Labs

Name of Supervisor:	Department:
Phone:	Email:

Name of Volunteer:	Date of Birth:
Days and Hours that the volunteer will spend at the lab:	
M:_____T:_____W:_____Th:_____F: _____	

Functions to be performed:	Supervised by: (Name, title)

Training required:	Completed:
CITI Training: VA ORD Biosecurity Training	
CITI Training: Biosafety Training	
Other: (Specify)	

Supervisor's Attestation:

1. I have read, understand, and will adhere to the requirements as described in the Lab Safety Manual.
2. I will ensure that the volunteer has completed their required training and documented.
3. Personal protective equipment appropriate for, and specific to, laboratory hazards will be provided.
4. This volunteer will be supervised at all times while in the laboratory and never left alone.
5. I understand that my failure to comply with the following practices and procedures as described in the Lab Safety Manual may result in suspension and/or termination of research activity.

Print Name of Supervisor_____
Signature of Supervisor_____
Date

**Form 11: RELEASE OF LIABILITY, WAIVER OF CLAIMS, EXPRESS ASSUMPTION OF RISKS,
AND HOLD HARMLESS AGREEMENT**

I HAVE READ, UNDERSTAND, and SIGNED the documents Rules for a Minors Working in Laboratories and Potential Hazard Information Sheet describing the potential risks and dangers associated with my child's volunteering in the VA Northern California Health Care System (VANCHCS) research laboratories. I fully understand that there are potential risks and hazards associated with exposure to hazardous materials or substances.

I AGREE TO ALLOW my minor child to participate on a scheduled assignment in the VANCHCS laboratories and freely accept and assume all associated risks and hazards. I ALSO AGREE AND UNDERSTAND that my child's volunteer privileges may be suspended at any time, at the discretion of the VANCHCS and its officers, agents, and employees, if the safety of my child, VANCHCS employees and/or other volunteers at the VANCHCS become a concern.

I, for myself and my estate, heirs, administrators, executors, and assigns, hereby release and hold harmless the Veterans Affairs, and their officers, directors, employees, representatives, agents, and volunteers (collectively, the "Releases"), from any and all liability and responsibility whatsoever, however caused, for any and all damages, claims, or causes of action that I, my estate, heirs, administrators, executors, or assigns may have for any loss, illness, personal injury, death, or property damage arising out of, connected with, or in any manner pertaining to my child's scheduled assignment in the VANCHCS laboratories, whether caused by the negligence of Releases or otherwise. I further hereby agree to defend, indemnify and hold harmless the Releases from any judgment, settlement, loss, liability, damage, or costs, including court costs and attorney fees that Releases may incur.

In signing this agreement, I acknowledge and represent that I have read and understand it and that I sign it voluntarily and for full and adequate consideration, fully intending to be bound by the same.

Printed Name of Minor Child

Signature of Parent/Legal Guardian

Printed Name of Parent/Legal Guardian

Date

I have read, understand, and will adhere to the Minors in Laboratories Policy. I understand that failure to comply with this Policy is dangerous to my health and safety and that I may be removed from the facility immediately for any failures or deviations in compliance.

Signature of Minor

Date

RULES FOR MINORS IN LABORATORIES

1. Never participate on a scheduled assignment alone in any laboratory environment without direct, immediate adult supervision from the sponsor or someone designated by the sponsor.
2. Complete and follow safety training specific to the hazards in the laboratory.
3. Always wear the personal protective equipment as directed and dispose of it appropriately. This personal protective equipment (PPE) includes goggles, gloves, coats/gowns, and other face/body protection as dictated by the hazard being worked with or around. Always remove PPE when leaving the work area.
4. Always follow the instructions of the sponsor or laboratory supervisor.
5. Always report any accident (regardless of severity) immediately to the sponsor or laboratory supervisor.
6. Always keep your hands away from your face and wash them well with soap and water prior to leaving any laboratory area and after removing gloves.
7. Never eat, drink, chew gum, apply lip balm, or touch contact lenses while in any laboratory environment.
8. Always wear closed-toe shoes while in any laboratory.
9. Always tie back long hair to keep it out of all the hazards listed above.
10. Always wear clothing that reduces the amount of exposed skin.
11. Always ask questions if you don't understand the safety requirements.

Printed Name of Minor Child

Signature of Minor

Signature of Parent/Legal Guardian

Printed Name of Parent/Legal Guardian

Date

Potential Hazard Information Sheet			
Type	Characteristics/potential hazards		Examples
Chemicals	Refined compound that may be in the form of a solid, liquid or gas. These may or may not be hazardous. Some compounds may have numerous hazard classifications (e.g., flammable, toxin & carcinogen)	Carcinogens: may cause cancer with long term exposure - usually many years in the future	Benzene
		Teratogens: known to affect the reproductive system of males /females & may cause birth defects in the developing fetus.	Alcohol, thalidomide, X-rays
		Neurotoxins: may affect the nervous system.	Ethidium bromide, snake venom
		Flammables: may burn or explode	Acetone, Xylene, Alcohol
		Reactive: may react explosively	Peroxides, acrylamide
		Corrosives: may cause tissue damage through inhalation or direct contact with eyes, skin, etc.	Acids & Bases
		Toxins: may cause illness or death on exposure.	Cyanide
Compressed Gases	Gases frequently housed in large & heavy high-pressure cylinders. The gas itself may be harmless, toxic, corrosive, flammable	Physical hazard: Explosion hazard upon rupture Asphyxiant hazard if gasses enter workplace & displace oxygen	Asphyxiant: nitrogen, helium, any other non-oxygen gas Flammable: hydrogen Toxic: ammonia
Radiation / Radioactive Materials	High energy particles (alpha & beta) or photon (X-rays, gamma)	Tissue & Organ damage with high doses	Uranium, Phosphorus-32, Sodium-35, X-rays
Physical Hazards	Exposure to noise, machinery, heat, cold, etc.	Tissue damage, hearing loss	Scrapes, cuts Cold: liquid nitrogen, dry ice Heat: burners
Lasers	Light Amplification by Stimulated Emission of Radiation	Eye damage and possible skin damage	Class IIIB and IV, and open beam laser operation

Potential Hazard Information Sheet			
Type	Characteristics/potential hazards		Examples
Biological Agents	Living organisms or products of living organisms such as viruses, bacteria, fungi, prions & parasites. Hazards from infection are organism dependent & may range from mild treatable to severe untreatable. Hazards are classified according to recommended containment protocol.	Biosafety Level 1 - No hazard	Baker's yeast & E. coli K12
		Biosafety Level 2 - Mild to severe illness	Influenza, Polio & Salmonella
		Biosafety Level 3 – Severe illness & possible death	Tuberculosis & AIDS
		Biosafety Level 4 – Fatal disease	Hemorrhagic fever
Recombinant DNA	Genetically modified organisms.	Scant scientific knowledge as to effects once introduced to the human body.	Viral vectors such as Adeno & Adeno-associated viruses used to transfect or express genes.
Toxins – Microbial, Plant, Animal	Poisonous substances produced by plants, living organisms or animals.	Tissue & organ damage or death.	Plants – Ricin Animals – fish / Reptile venom Microbials – Staphylococcus, Tetanus